

3D INTERACTIVE TRAINING
BUSINESS CASE, COSTS, ROI
& REVENUE POTENTIAL



HEARTWOOD

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INTRODUCTION

Cost is always top-of-mind when running a business – and, more specifically, ways to cut those costs. And although you know that cutting costs around training isn't a good idea because it can lead to dangerous situations, you often find yourself re-evaluating it for cutbacks, not far behind that marketing budget you so despise.

But did you know there IS a way to save hundreds of thousands on training long-term, without sacrificing safety? And, separately, has anyone told you there's an entirely different way to think about training – not as a cost, but as a new revenue stream?

This eBook explores both concepts and will help you create a bullet-proof business case that will speak to the many benefits of virtual training – and communicate the urgency your company faces when it comes to adopting it.

So let's jump right in with some essential business case info that will create a framework for your efforts:

MAKING THE BUSINESS CASE FOR VIRTUAL TRAINING

Crafting a compelling business case to accompany new training technology requests is a requirement few program managers look



forward to. Having read our [ROI](#) and [Predictions](#) posts, they know the time to pursue 3D interactive training is now – and communicating this urgency effectively to key decision-makers in their organizations is key. And this post will help them (you) do just that.

Nothing drives action more than the opportunity to either save costs or increase revenue. And framing that business case from an “opportunity” rather than a limitation perspective is a shift we’ll be exploring here, by way of a pretty powerful example.

Instead of asking “**How much budget do I have to solve this training problem?**”- and then trying to solve it using that number, consider the following:

You could be solving a **\$5M problem with a \$30K budget** and doing injustice to the endeavor.

In fact, it’s better not to solve a problem at all than hack at it completely under-capitalized and waste that lesser amount as well. The reverse is also true, of course, where spending gobs of money on a minuscule issue is equally inadvisable.

But how does one measure the magnitude of a training task in \$?

By building a business case with a '**Bottom up**' approach (starting from a granular level), rather than a 'Top down' method ("we have \$XX left in the budget...") – and it looks like this:

A car company (one of the five largest makers) approached us with a very interesting dilemma: At year-end, one of their flagship models is being released with a completely redesigned dashboard and controls layout offering a brand new way of accessing all of the features needed while driving.



The Problem? By the time each dealership receives the car shipments, employees at those locations must be fully familiar with the redesigned controls, this includes technicians, sales consultants, sales and service managers, service consultants and shop foremen. And this is a TALL order when they can't actually touch the cars before they arrive!

While it's tempting for us to start throwing possible solutions at the problem, we first need to measure the magnitude of the task ahead.

STEP 1 – Measuring the Problem in \$

Note: the numbers below have been condensed and changed to protect the customer, but the methodology remains the same.

Magnitude of Training Task (in \$)					
Dealership Employee	Per Dealership	Dealerships (USA)	Total Emp.	Training Hrs. (on this task)	Total Training Hrs.
Technicians					
Mandatory Certification	1	320	320	16	5,120
Familiarization only	8	320	2,560	4	10,240
Sales - Consultants & Managers					
Familiarization only	11	320	3,520	4	14,080
Misc - Service Consultants, Managers, and Shop Foremen					
Familiarization only	6	320	1,760	4	7,040
					36,480
Average Blended Burdened Cost/hr					\$78
\$ Magnitude of Training Task					\$2,845,440

Now that the customer has quantified the training task as a \$2.84 MM problem or rather an opportunity to save some of this, it makes a compelling case to approach higher management for the appropriate budget by going from:

“How much budget do we have in this quarter’s/year’s budget for this?”
(never the best approach) to –

“How much are we willing to spend to solve a \$2.84 MM problem?”

STEP 2 – Finding the Value

Fully understanding the question is the only way to come out with an answer that makes sense for the specific problem/training concern.

The solution agreed upon, a **3D Interactive Virtual Car Simulation**, looks like and behaves like the real thing and is virtually practiced on via any tablet or web-enabled browser. Employees interact with their fingers (or their mouse) as if they are actually in the car, with full freedom of movement and navigation (pun intended!). The solution saves 18-23% teaching and learning time for students to master the subject (vs. using e-learning and Powerpoint) – reducing the training task from \$2.84MM to \$2.23MM.

STEP 3 – Determining the Justified Investment

Next, we want to determine what it is worth to solve the problem. The value of a solution and appropriate investment to obtain it can be expressed with two equations:

Cost of problem (COP) – minus Return on solution (ROS) = Value

Value x Customers expected Return on Investment (ROI) = Justified Investment

\$2.84MM (COP) – \$2.23MM (ROS) = \$610,000 (Value)
Assuming a desired ROI of 6 times the initial investment,
 \$610,000 x 1/6 = \$101,500 as the Justified Investment.

To save \$603K, the customer is more than willing to secure a training budget of \$100K for this task, since they can start saving on that bigger amount right away.

Reducing expensive training costs by deploying Virtual 3D Interactive Training is becoming the norm. However, requesting budgets without supporting data is difficult – which is why we’re offering exactly what you need to turn thought into action.

Watch Raj Raheja, CEO and co-founder Neil Wadhawan, answering these pressing questions in the webinar recording that follows below:

How do we measure the size of my training problem?
Exactly how will my company save dollars? “Show me the money!”
Where is the data from ACTUAL use cases?

Watch here: <https://vimeo.com/121293817>

But even when armed with this information, we’re the first to admit that change isn’t always easy. It’s even a little scary.

*“A ship is safe in harbor,
but that is not what it’s built for.”*

3D Interactivity looks expensive – and possibly unnecessary at first – much like a car must have looked to folks used to walking from point A to B. But in both situations, once the time and money saved per trip (or training) is amortized over the life of usage, it is not only affordable, but the best way to arrive at point B efficiently.



*“This looks expensive.”
“We don’t know if we can afford it.”*

These concerns are typical – so let’s address them:

The Surprising ROI of Interactive Training & Simulation Technology

We asked a variety of Operation & Maintenance training teams, “What would you do if you didn’t train via interactive simulation technologies?”

There were two main responses, and you’re likely familiar with one or both of them:

1st Response: We practice on actual equipment in live sessions.

Training with live equipment is much more expensive than using interactive technologies. Beyond the cost of having equipment on-site (and available for training), there are additional limitations:

1. The equipment is site-specific. You cannot train technicians at other facilities on that piece of equipment without bringing them to that specific site to train, unless the equipment in question is smaller than a breadbox, which is usually not the case.

2. It does not scale well. When you update this expensive piece of equipment in the field, you’ll have to update your training vehicle (or what have you) as well or it will be useless.

3. There’s a set start and end point. Technicians are not able to have training refreshers without returning to the site – and after scheduling time to do so, that is. And likely reserving time with whomever leads the training.

And that isn't just us saying so – it's the U.S. Navy:

The U.S. Navy conducted a 'cost avoidance' study comparing an eight-hour training session on actual equipment against the same training using 3D Interactive Simulation. They concluded that their \$1.28 million investment in PC-based interactive training **SAVED THEM \$4.24 million** in avoided costs, with **a final ROI of \$2.96 Million** – and that was for training on just one piece of equipment.

"The use of Interactive 3D Simulation to augment training on actual equipment needs to be viewed from both an instructional and a business perspective. Answering this question requires consideration of many subjective factors, particularly when the indirect and intangible benefits may be impossible to quantify. However, when one considers the (direct) high costs and risks associated with live sessions, travel, scheduling, and hazardous environments, it makes sense to carefully examine opportunities to use PC Simulation."

- [*Navy ILE PC Modeling and Simulation Guidelines*](#), (pg 41 Section 3.6 Economic Considerations – Cost Avoidance)

This cost avoidance framework proves the business case for investing in portable 3D Interactive Training solutions. Heartwood's team can assist you in tailoring this framework to your unique needs, just [reach out here](#).



2nd Response: We make PowerPoint style e-learning courses and/or shoot video showing the procedure.

Learning by Seeing is as effective as learning to drive by sitting in the passenger seat (so not really very effective). **Learning by Doing** is far more effective than learning by seeing, learning by hearing or any other form – and interactive gaming technologies hold the key. The inefficacy of manuals, videos, and ‘next page’ style courses are examined in these two posts:

[Making Your Training Stick](#)

[Work is Not a Game – But Training Can Be!](#)

And Guess What? Customers Report BIG Returns

If following a “typical” training model, Oshkosh (and in turn their customer the U.S. Army) would have to train three students at a time on an actual vehicle – and with each vehicle costing anywhere from \$100K-\$250K, that’s a pretty significant spend. But 3D Interactive Virtual Training allows them to train 25 students at a time (eight times more than before) – each one practicing the procedures virtually, in just ONE classroom. This offers an economy of scale that any CFO will enthusiastically embrace.

“We often need to train students on equipment that either isn’t readily available or cost prohibitive, so the virtual world provides a safe, financially attractive alternative.

One of biggest benefits we’ve experienced is being able to use it in multiple areas for both logistical training and for sustainment needs. Annual refresher trainings are very costly when one has a large user base. Virtual stations can accommodate 20-30 students in class, letting them operate a truck virtually, experiencing the driver interface in a way that would’ve taken us infinitely longer if they had to do it one at a time.”

-Steve Pollock, Product Support Training Manager at Oshkosh

“Infinitely longer” certainly warrants a look, right?

And while we have you beginning to see the benefits of rethinking “cost avoidance” - let’s kick up a notch and help you envision training NOT as a cost center, but as a profit-generating product.



PARADIGM SHIFT: Training ‘App Store’ can generate substantial revenue

Have you ever felt spending on development of training content was a necessary ‘evil’? In the digital age, that assumption is widely changing as training is transforming from a cost center to a profit generating product.

Businesses, in general, are quick to spend money on new locations, services or products deemed profitable. And they’re also quick to cut costs whenever possible. That all makes sense, of course – but there’s a revenue stream your business is most likely missing and it’s right under your nose: **MONETIZING your expertise.**

Allow me to explain.

‘Training’ is traditionally considered a cost – and it’s undoubtedly a line item that your CFO would love to see reduced. Well, now you can change the line it sits in.

In the past few years, we have seen a change in market acceptance for high quality training content. It’s more than an acceptance, really – there’s a genuine demand for it. And your company could be supplying it.

Customers and end users are now willing to pay for training content that is intuitive, easy to use and accessible when and where they want it.

Case in point: Ask any law student preparing to take the Bar exam and they'll tell you there are lots of free study aids available online. Why, then, has one app, BarMax, been able to pull in \$1000 PER DOWNLOAD for its Bar prep package? Easy – the others are poorly produced, fragmented and painful to navigate and BarMax is the opposite.

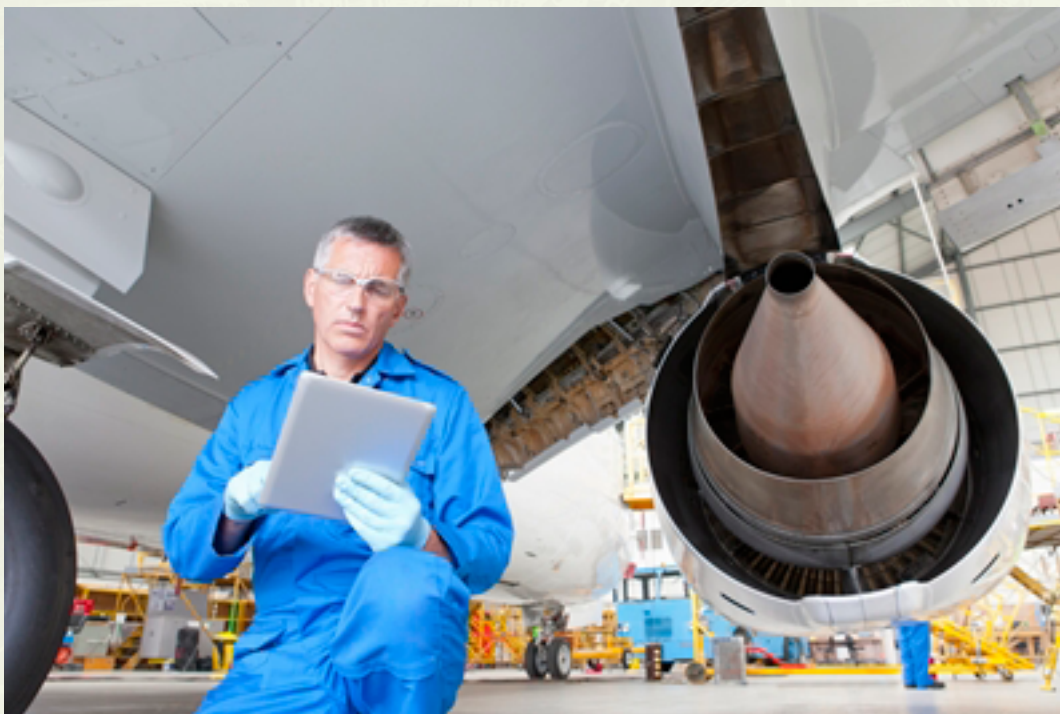


Similarly, couldn't YOUR business develop modular training content that is superior to free offerings currently available? Are there training needs that aren't currently being met? Forget written manuals for equipment; most people dislike leafing through these. Consider creating visual and fully

interactive modules. Wouldn't your end users pay a few dollars more to access these items? And "a few dollars" adds up quickly when we're talking about high volume of users.

Regular documentation like Technical Publications & Manuals can still ship as standard with the OEM's products. Premium training apps that are visually interactive and are Portable, Scalable, Modular can sell as separate digital products. For more exposure they can be sold on a public store like Apple's App Store or on a company's website for privacy or security reasons.

The end result is win-win.



Customers will pay for high quality training.

Now just a few years ago, these Operations and Maintenance-style lessons were difficult to teach digitally, following the ‘if there is no practice, there is no training’ adage.

But today, Heartwood is working with top tier OEM’s and companies to produce 3D Interactive Training Apps that allow the user to virtually ‘Learn by Doing’ (via [interactive gaming technology](#)). And students can access these modular training apps anywhere, anytime on any platform – Web, PC, Mobile, and Tablets. It’s incredible really.

So the delivery platform is *already there*. All that’s needed is your knowledge – and a desire to monetize it **before your competition does**.

If you can change your approach to training, you can also transform “training” from a cost to a PROFIT. And you can start today by identifying areas of training expertise where your company specializes and has legacy knowledge.

The next step is packaging it in a way that will help it become a top line revenue generator, as a digital interactive product. How?

Well, we’ve figured out how to mass-customize (and quickly scale) a variety trainings - and apps – for O&M clients, so best practices on each are our specialty.

But the true key to our success has been listening to and collaborating with customers – and we’d like to share how that looks with you. The first interview gives a glimpse of how we work with clients, and the second shows that we aren’t afraid of learning from challenges, as it’s all part of growth and training.

CUSTOMER COLLABORATIONS: Heart of what we do

In the years since Heartwood was founded, we have worked with – and grown along with – some pretty spectacular customers, like **Raytheon**.

This Q&A with Gary A Beaulieu, Senior Systems Engineer at Raytheon explores that relationship.

Q. Why did you think of using 3D interactivity and gaming tech for training?

Gary: It was a natural progression for us, as we try to keep pace with the evolution of training as it transitions through each successive generation. 3D training was more realistic and certainly more cost effective.

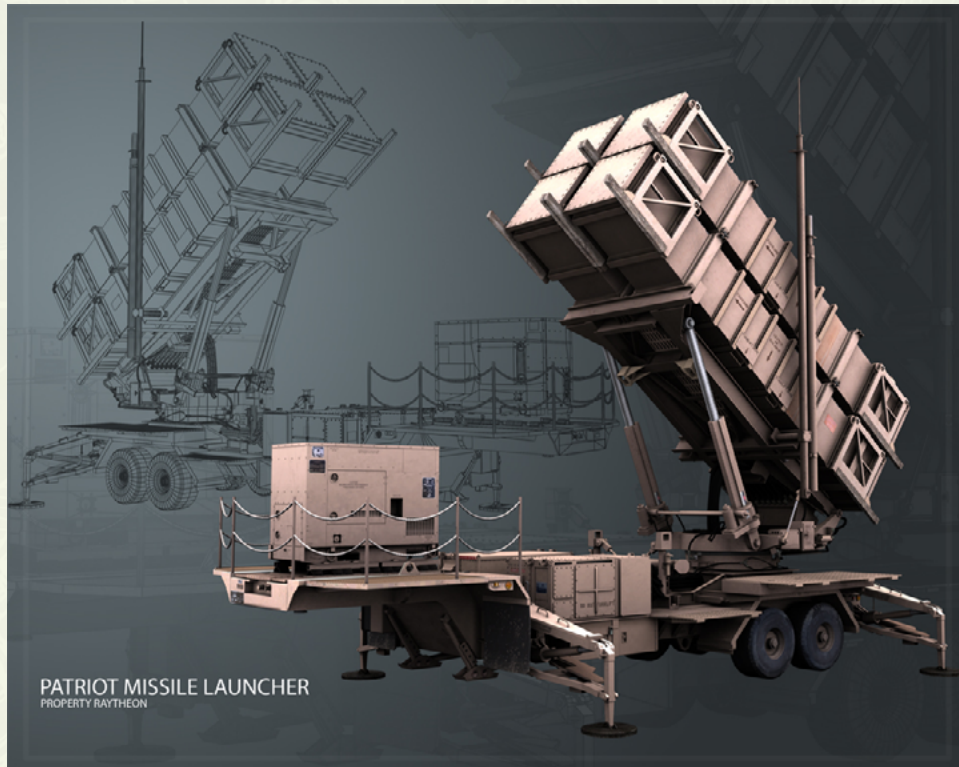
Q. How long have you used this technology – and for what purpose?

Gary: We've been using it for six or seven years now to teach the war fighter how to fix and maintain tactical assets in the field.

Q. How are the results? What are your end users/customers saying about it?

Gary: They love it – we get lots of 'wows,' even after the initial demos and briefs. And then we move beyond that, providing varying levels of training able to accommodate everyone from the soldier straight out of school to the advanced user with 30 years in the field.

To simulate open-ended training scenarios in a safe environment is pretty invaluable. And being able to train multiple people at once (many more than could fit in a tactical asset at one time) is a definite plus as well.



Q. What challenges have you faced?

Gary: The first demo was very basic – and comparing it to today provides perspective of how much Heartwood has helped the program expand.

Transitioning from the traditional learning approach where everything is written to more of a gaming environment was not easy. We knew what we wanted, but we didn't know how to get there – and would get requirements from end users like “make it cool” or other ideas that were easily lost in translation. Heartwood helped us sort it out and grow incrementally. That was huge.

Probably the hardest thing to do was letting them run with it and trusting their expertise without retraining them. That's a relationship that grows with time, of course.

Now we share their vision of looking forward to the next generation in training technology and eagerly anticipate immersive environments. Identifying how and when to make that transition to the next level is today's challenge.

Q. Have there been any euphoric moments?

Gary: Those moments are continuous as new people try the technology. We have a real sense of accomplishment with what we do and feel good about giving end users what they need to perform critical functions safely.

Q. And the big question: Why did you decide to use Heartwood?

Gary: After meeting with them in person, we were sold. They offered the kind of interaction and flexibility we needed to get our program off the ground – and the expertise to provide a superior product. They've been very responsive to schedule and skill changes and it's really been great working with them.

And here's the second interview we promised!

Customer Collaboration with Oshkosh: **CHALLENGES BRING OPPORTUNITIES**

This week's interview, with Steve Pollock, Product Support Training Manager at **Oshkosh Corporation**, revealed an opportunity for growth:

Q. Why did you think of using 3d interactive gaming tech? And have you used it before?

Steve: It opens up a new world of possibilities and reduces overall costs. And this has proven correct since we started using it about three years ago. We started out with a single requirements-based project and have ramped up significantly since then.

Q. What was the feedback from your customer and your users?

Steve: Both positive and negative, actually. We often need to train students in environments that have inherent dangers – in both process and materials – or on equipment that either isn't readily available or cost prohibitive, so the virtual world provides a safe, financially attractive alternative. Students report good results and provide positive feedback overall.

Customers paying for this training have not had enough exposure to these methods to fully graph its effectiveness. It's more of a cultural thing, really – and it makes sense: Many presume students have to be on the equipment to learn. The virtual world does allow students to repeat actions and perform these actions, but it hasn't been around long enough to provide extensive use cases to support effectiveness. This will come, of course, but for now, it can sometimes be a tough sell.

Q. Any additional challenges?

Steve: I'm not a graphics expert and working with a team to get my vision across and have it come to life was the biggest challenge for me. The team at Heartwood did very good job of bringing my suggestions to life.

Q. Do you plan to continue using this technology?

Steve: Absolutely. This is a key element in our training toolbox at this point. Our training uses blended solutions and we're always searching for cost-effective means. Most trainings require some kind of stand up instruction, but combining it with virtual tech allows us to get a day or two done ahead of the on-site instruction. That savings is HUGE and comes without a negative impact to overall outcome of the training.

OSHKOSH Defense requested Heartwood to build a 3D Interactive Training application for Operator Training on their HEMTT Vehicle Platform. The application runs on multiple platforms - Web, PC, and Tablets and can be accessed anytime, anywhere. Watch it in action here: <https://vimeo.com/66925933>

Q. Has it met your 'return on investment' expectations?

Steve: One of biggest benefits we've experienced is being able to use it in multiple areas for both logistical training and for sustainment needs. Annual refresher trainings are very costly when one has a large user base. For example, virtual stations can accommodate 20-30 students in class, letting them operate a truck virtually, experiencing the driver interface in a way that would've taken us infinitely longer if they had to do it one at a time.

Q. Why did you choose Heartwood?

Steve: When looking at different companies, Heartwood had technology that wasn't available elsewhere. The possibilities were intriguing. And sitting down and speaking with Raj and his team from Heartwood sealed the deal, as their understanding of the training world was impressive. I view technology as a viable training alternative, one that breaks down many barriers – and Heartwood does as well.

Working with the Heartwood team is a pleasure. They offered an easy working relationship and trust was built very quickly – not an easy task in this industry.

And there you have it! If you have any questions about 3D Interactive Technology, we would love to hear from you. Some take-aways to keep in mind:

- It isn't as expensive as you think
- It's far more effective than you realized
- And 3D interactive training is headed your way much sooner than you imaged!

We're waiting to answer any questions you have – and help you build a business case specific to your company. [Click here now](#) to see for yourself!